

Patent Claims:

1. A pump, in particular a vane cell pump, for supplying transmission oil, having a pump housing (1) and a rotating group which is situated in the pump housing (1), the rotating group having a side plate (19) which may be situated in the pump housing (1) in such a way that, at least temporarily, an axial gap (27) occurs between the side plate (19) and the pump housing (1), a shaft is mounted in the pump housing (1) and a radial packing ring (9) is situated in a recess (7) around the shaft (3) which radially seals off the rotating group with respect to the exterior on the pump housing (1) and radially seals off the rotating group on the shaft (3) via a first sealing lip (16),

characterized in that, in addition to the radial seal between the shaft and the pump housing (1), the radial packing ring (9) establishes an axial seal between the pump housing (1) and the side plate (19).

2. The pump as recited in Claim 1,

characterized in that the axial seal bridges the axial gap (27).

3. The pump as recited in Claim 1 or 2,

characterized in that the axial seal is represented by a second sealing lip (31).

4. The pump as recited in Claim 3,

characterized in that the second sealing lip (31) is situated on the radially outside bottom seal (13) of the radial packing ring (9).

5. The pump as recited in one of the preceding claims,

characterized in that the radial packing ring (9) is situated in such a way that its radially outside sealing sections (13) face away from the interior of the pump.

6. The pump as recited in one of the preceding claims,

characterized in that the side plate (19) is axially positioned via a spacing means (29) with respect to the pump housing (1).

7. The pump as recited in one of the preceding claims,  
characterized in that the axial sealing lip (31) does not contact the shaft (3).
8. The pump as recited in one of the preceding claims,  
characterized in that the side plate (19) has a sealing device (23) which presses elastically against  
the pump housing (1) thereby enlarging the axial gap (27) (by elastic force) during the standstill  
of the pump, i.e., in the pressureless state of the pump.
9. The pump as recited in one of the preceding claims,  
characterized in that the axial seal bridges a gap (27) which is changeable by component  
tolerances.
10. The pump as recited in one of the preceding claims,  
characterized in that the axial seal seals a leak oil pressure area from an oil suction pressure area  
of the pump.